

U.S. Patent Application Serial No. 10/647,230
Amendment filed December 9, 2004
Reply to OA dated October 8, 2004

AMENDMENTS TO THE CLAIMS:

Please amend claims 1 and 3, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A metal-bonded grinding tool comprising:
a base; and
abrasive grains bonded to said base by means of a metal bond matrix, said metal bond matrix consisting essentially of:
containing a Cu alloy as a main component;
zirconium; and
titanium;
wherein said ~~metal bond matrix contains at least one of~~ zirconium and said titanium being present as one of an alloy phase, a mixed phase, and an intermetallic compound of Zr and Ti.

Claim 2 (Original): A metal-bonded grinding tool according to claim 1, wherein a content of said at least one of an alloy phase, a mixed phase, and an intermetallic compound of Zr and Ti in said metal bond matrix is in a range of 3.8 to 19.2 wt%.

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Claim 3 (Currently amended): A metal-bonded grinding tool ~~according to claim 2,~~
comprising:

a base; and
abrasive grains bonded to said base by means of a metal bond matrix containing a Cu alloy
as a main component;

wherein said metal bond matrix contains at least one of an alloy phase, a mixed phase, and
an intermetallic compound of Zr and Ti,

wherein the content of said at least one of an alloy phase, a mixed phase, and an intermetallic compound of Zr and Ti in said metal bond matrix is in a range of 6.4 to 14.1 wt%.

Claim 4 (Original): A metal-bonded grinding tool according to claim 1, wherein a weight ratio of Ti to Zr is in a range of 0.5 to 2.0.

Claim 5 (Original): A metal-bonded grinding tool according to claim 1, wherein said Cu alloy is selected from a group consisting of a bronze containing 10 to 33 wt% of Sn, a brass containing 5 to 20 wt% of Zn, and an aluminum bronze containing 5 to 20 wt% of Al.

Claim 6 (Original): A metal-bonded grinding tool according to claim 1, wherein said abrasive grains are abrasive grains of a material selected from a group consisting of diamond, cubic boron nitride, silicon carbide, and cemented carbide.